

50-269/370/287

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FILE NUMBER  
MONTHLY REPORT

TO:

N. R. C.

FROM:

Duke Power Company  
Charlotte, North Carolina  
William O. Parker, Jr.

DATE OF DOCUMENT  
12/09/77

DATE RECEIVED  
12/15/77

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DESCRIPTION

LTR TRANS THE FOLLOWING:

PLANT NAME: Oconee Units 1-2-3  
RJL 12/15/77

(1-P)

ENCLOSURE

MONTHLY REPORT FOR November 1977  
PLANT & COMPONENT OPERABILITY & AVAILABILITY.  
THIS REPORT TO BE USE IN PREPARING GRAY BOOK  
BY PLANS & OPERATIONS.

(9-P)

1 ENCL

FOR ACTION/INFORMATION

MPC W/2 CYS FOR ACTION

INTERNAL DISTRIBUTION

REG FILES

NRC-PDR

BRANCH CHIEF (1) (2) SCHWENGER

LIC ASST.

EXTERNAL DISTRIBUTION

LPDR : WALKER HALLA SC.

TIC:

NSIC

CONTROL NUMBER

MR

773500028

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

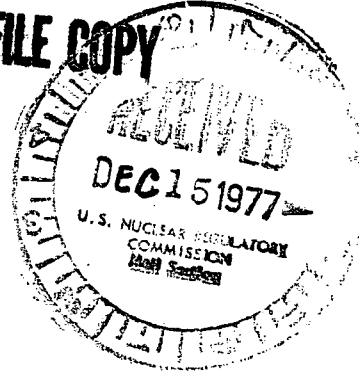
WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

December 9, 1977

TELEPHONE: AREA 704  
373-4083

**REGULATORY DOCKET FILE COPY**

Director  
Office of Management Information  
and Program Control  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

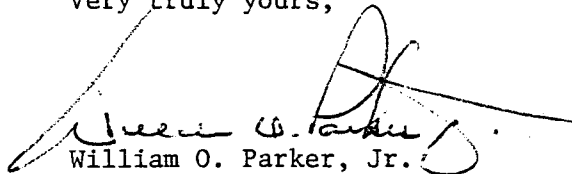


RE: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287

Dear Sir:

Please find attached information concerning the performance and operating status of the Oconee Nuclear Station for the month of November, 1977. During the period Oconee Nuclear Station has been in operation the maximum dependable capacity has been changed from 820 MWe for the period July 16, 1973 through November 8, 1973 to 887 MWe for the period November 8, 1973 through December 31, 1973 to 871 MWe for January, 1974 through December, 1976 and to 860 MWe for January 1977 to present. In previous Monthly Operating Reports the cumulative capacity factors, defined as the cumulative net generation divided by maximum dependable capacity times cumulative period hours, have been calculated using the maximum dependable capacity current at that time. Beginning with this report, November, 1977, the cumulative capacity factors will be calculated using a weighted maximum dependable capacity which will reflect the past variations in this number.

Very truly yours,

  
William O. Parker, Jr.

JAR:ge  
Attachment

cc: Mr. Norman C. Moseley

773500028

UNIT Oconee Unit 1  
DATE 12-09-77  
DOCKET NO. 50-269  
PREPARED BY J. A. Reavis

OPERATING STATUS

1. REPORTING PERIOD: November 1 THROUGH November 30, 1977  
GROSS HOURS IN REPORTING PERIOD: 720.00
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 2568 NET CAPABILITY  
(MWe-Net): 860
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): (MWe-Net) \_\_\_\_\_
4. REASONS FOR RESTRICTION (IF ANY) \_\_\_\_\_
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL

	<u>This Month</u>	<u>Year to Date</u>	<u>Cumulative</u>
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL	<u>720.00</u>	<u>4,962.6</u>	<u>27,078.4</u>
6. REACTOR RESERVE SHUTDOWN HOURS	<u>--</u>	<u>--</u>	<u>--</u>
7. HOURS GENERATOR ON-LINE	<u>720.0</u>	<u>4,824.7</u>	<u>24,788.7</u>
8. UNIT RESERVE SHUTDOWN HOURS	<u>--</u>	<u>--</u>	<u>--</u>
9. GROSS THERMAL ENERGY GENERATED (MWH)	<u>1,418,049</u>	<u>10,743,586</u>	<u>57,129,297</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	<u>486,420</u>	<u>3,675,720</u>	<u>19,799,150</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)	<u>459,598</u>	<u>3,460,701</u>	<u>18,693,234</u>
12. REACTOR SERVICE FACTOR	<u>100.0</u>	<u>61.9</u>	<u>70.6</u>
13. REACTOR AVAILABILITY FACTOR	<u>100.0</u>	<u>61.8</u>	<u>66.9</u>
14. UNIT SERVICE FACTOR	<u>100.0</u>	<u>60.2</u>	<u>64.6</u>
15. UNIT AVILABILITY FACTOR	<u>100.0</u>	<u>60.2</u>	<u>64.7</u>
16. UNIT CAPACITY FACTOR (Using Net Capability)	<u>74.2</u>	<u>50.2</u>	<u>56.3</u>
17. UNIT CAPACITY FACTOR (Using Design Mwe)	<u>72.0</u>	<u>48.7</u>	<u>54.9</u>
18. UNIT FORCED OUTAGE RATE	<u>-0-</u>	<u>22.84</u>	<u>18.8</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE & DURATION OF EACH:)  
None
20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: \_\_\_\_\_

$$\text{REACTOR SERVICE FACTOR} = \frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{REACTOR AVAILABILITY FACTOR} = \frac{\text{HOURS REACTOR WAS AVAILABLE TO OPERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT SERVICE FACTOR} = \frac{\text{HOURS GENERATOR ON LINE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT AVAILABILITY FACTOR} = \frac{\text{HOURS UNIT WAS AVAILABLE TO GENERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT CAPACITY FACTOR} = \frac{\text{NET ELECTRICAL POWER GENERATED}}{[\text{Net Capability or Design (Mwe-Net)}] \times \text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT FORCED OUTAGE RATE} = \frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON LINE} + \text{FORCED OUTAGE HOURS}} \times 100$$

# UNIT SHUTDOWNS

DOCKET NO. 50-269

UNIT NAME Oconee Unit 1

DATE 12-09-77

REPORT MONTH November, 1977

NO.	DATE	TYPE F-FORCED S-SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR (2)	CORRECTIVE ACTIONS/COMMENTS
						<div> (1) REASON  A-EQUIPMENT FAILURE (EXPLAIN)  B-MAINT. OR TEST.  C-REFUELING  D-REGULATORY RESTRICTION  E-OPERATOR TRAINING AND  LICENSE EXAMINATION  F-ADMINISTRATIVE  G-OPERATIONAL ERROR  (EXPLAIN)  H-OTHER (EXPLAIN) </div> <div> (2) METHOD  1-MANUAL  2-MANUAL  SCRAM  3-AUTOMATIC  SCRAM </div>

## SUMMARY:

No outages this month. Note that cumulative capacity factors for Oconee Unit 1 have been calculated using a weighted maximum dependable capacity to reflect past variations in this number.

DOCKET NO. 50-269UNIT Oconee Unit 1DATE 12-09-77**AVERAGE DAILY UNIT POWER LEVEL**MONTH November, 1977**DAY**      **AVERAGE DAILY POWER LEVEL  
(MWe-net)**

1	625
2	627
3	629
4	342
5	215
6	393
7	579
8	615
9	615
10	612
11	616
12	621
13	622
14	620
15	622
16	622

**DAY**      **AVERAGE DAILY POWER LEVEL  
(MWe-net)**

17	618
18	620
19	625
20	625
21	624
22	623
23	624
24	785
25	841
26	836
27	834
28	833
29	836
30	838
31	

**DAILY UNIT POWER LEVEL FORM INSTRUCTIONS**

On this form, list the average daily unit power level in MWe-net for each day in the reporting month. Compute to the nearest whole megawatt.

These figures will be used to plot a graph for each reporting month. Note that by using maximum dependable capacity for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.

UNIT Occanee Unit 2  
DATE 12-09-77  
DOCKET NO. 50-270  
PREPARED BY J. A. Reavis

OPERATING STATUS

1. REPORTING PERIOD: November 1 THROUGH November 30, 1977  
GROSS HOURS IN REPORTING PERIOD: 720.00
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 2568 NET CAPABILITY  
(MWe-Net): 860
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): (MWe-Net) \_\_\_\_\_
4. REASONS FOR RESTRICTION (IF ANY) \_\_\_\_\_
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL

	<u>This Month</u>	<u>Year to Date</u>	<u>Cumulative</u>
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL	<u>519.1</u>	<u>4,891.8</u>	<u>19,118.8</u>
6. REACTOR RESERVE SHUTDOWN HOURS	<u>--</u>	<u>--</u>	<u>--</u>
7. HOURS GENERATOR ON-LINE	<u>510.2</u>	<u>4,774.6</u>	<u>18,540.1</u>
8. UNIT RESERVE SHUTDOWN HOURS	<u>--</u>	<u>--</u>	<u>--</u>
9. GROSS THERMAL ENERGY GENERATED (MWH)	<u>726,208</u>	<u>10,944,013</u>	<u>43,705,274</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	<u>248,210</u>	<u>3,707,690</u>	<u>14,863,296</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)	<u>227,511</u>	<u>3,506,528</u>	<u>14,090,651</u>
12. REACTOR SERVICE FACTOR	<u>72.1</u>	<u>61.0</u>	<u>67.6</u>
13. REACTOR AVAILABILITY FACTOR	<u>80.4</u>	<u>60.7</u>	<u>66.2</u>
14. UNIT SERVICE FACTOR	<u>70.9</u>	<u>59.6</u>	<u>65.5</u>
15. UNIT AVILABILITY FACTOR	<u>70.9</u>	<u>59.6</u>	<u>65.5</u>
16. UNIT CAPACITY FACTOR (Using Net Capability)	<u>36.7</u>	<u>50.9</u>	<u>57.4</u>
17. UNIT CAPACITY FACTOR (Using Design Mwe)	<u>35.6</u>	<u>49.3</u>	<u>56.1</u>
18. UNIT FORCED OUTAGE RATE	<u>29.1</u>	<u>17.8</u>	<u>23.6</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE & DURATION OF EACH:)  
None
20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: \_\_\_\_\_

$$\text{REACTOR SERVICE FACTOR} = \frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{REACTOR AVAILABILITY FACTOR} = \frac{\text{HOURS REACTOR WAS AVAILABLE TO OPERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT SERVICE FACTOR} = \frac{\text{HOURS GENERATOR ON LINE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT AVAILABILITY FACTOR} = \frac{\text{HOURS UNIT WAS AVAILABLE TO GENERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT CAPACITY FACTOR} = \frac{\text{NET ELECTRICAL POWER GENERATED}}{[\text{Net Capability or Design (Mwe-Net)}] \times \text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT FORCED OUTAGE RATE} = \frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON LINE} + \text{FORCED OUTAGE HOURS}} \times 100$$

# UNIT SHUTDOWNS

DOCKET NO. 50-270

UNIT NAME Oconee Unit 2

DATE 12-09-77

REPORT MONTH November, 1977

NO.	DATE	TYPE F-FORCED S-SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR (2)	CORRECTIVE ACTIONS/COMMENTS
11	77-11-03	F	201.84	A	1	Suspected OTSG tube leak, repair leak on powdex system.
12	77-11-13	F	7.97	A	3	Emerg. feedwater pump trip
						<div> <div> (1) REASON  A-EQUIPMENT FAILURE (EXPLAIN)  B-MAINT. OR TEST  C-REFUELING  D-REGULATORY RESTRICTION  E-OPERATOR TRAINING AND  LICENSE EXAMINATION  F-ADMINISTRATIVE  G-OPERATIONAL ERROR  (EXPLAIN)  H-OTHER (EXPLAIN) </div> <div> (2) METHOD  1-MANUAL  2-MANUAL  SCRAM  3-AUTOMATIC  SCRAM </div> </div>

## SUMMARY:

Note that cumulative capacity factors for Oconee Unit 2 have been calculated using a weighted maximum dependable capacity to reflect past variations in this number.

DOCKET NO. 50-270UNIT Oconee Unit 2DATE 12-09-77**AVERAGE DAILY UNIT POWER LEVEL**MONTH November, 1977

DAY	AVERAGE DAILY POWER LEVEL (MWe-net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-net)
1	555	17	394
2	655	18	395
3	560	19	395
4	---	20	396
5	---	21	395
6	---	22	431
7	---	23	476
8	---	24	473
9	---	25	477
10	---	26	513
11	---	27	549
12	110	28	578
13	106	29	556
14	315	30	456
15	415	31	
16	416		

**DAILY UNIT POWER LEVEL FORM INSTRUCTIONS**

On this form, list the average daily unit power level in MWe-net for each day in the reporting month. Compute to the nearest whole megawatt.

These figures will be used to plot a graph for each reporting month. Note that by using maximum dependable capacity for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.



UNIT Osage Unit 3  
DATE 12-09-77  
DOCKET NO. 50-287  
PREPARED BY J. A. Reavis

OPERATING STATUS

1. REPORTING PERIOD: November 1 THROUGH November 30, 1977  
GROSS HOURS IN REPORTING PERIOD: 720
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 2568 NET CAPABILITY  
(MWe-Net): 860.00
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY): (MWe-Net) \_\_\_\_\_
4. REASONS FOR RESTRICTION (IF ANY) \_\_\_\_\_
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL

	<u>This Month</u>	<u>Year to Date</u>	<u>Cumulative</u>
5. NUMBER OF HOURS THE REACTOR WAS CRITICAL	<u>8.5</u>	<u>6,145.8</u>	<u>19,548.5</u>
6. REACTOR RESERVE SHUTDOWN HOURS	<u>---</u>	<u>---</u>	<u>---</u>
7. HOURS GENERATOR ON-LINE	<u>-0-</u>	<u>6,039.5</u>	<u>19,063.0</u>
8. UNIT RESERVE SHUTDOWN HOURS	<u>---</u>	<u>---</u>	<u>---</u>
9. GROSS THERMAL ENERGY GENERATED (MWH)	<u>-0-</u>	<u>14,850,262</u>	<u>45,218,479</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)	<u>-0-</u>	<u>5,154,410</u>	<u>15,593,854</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)	<u>(5,515)</u>	<u>4,905,241</u>	<u>14,838,883</u>
12. REACTOR SERVICE FACTOR	<u>1.2</u>	<u>76.7</u>	<u>75.4</u>
13. REACTOR AVAILABILITY FACTOR	<u>-0-</u>	<u>75.5</u>	<u>75.4</u>
14. UNIT SERVICE FACTOR	<u>-0-</u>	<u>75.3</u>	<u>73.5</u>
15. UNIT AVILABILITY FACTOR	<u>-0-</u>	<u>75.3</u>	<u>73.5</u>
16. UNIT CAPACITY FACTOR (Using Net Capability)	<u>-0-</u>	<u>71.2</u>	<u>65.9</u>
17. UNIT CAPACITY FACTOR (Using Design Mwe)	<u>-0-</u>	<u>69.0</u>	<u>64.5</u>
18. UNIT FORCED OUTAGE RATE	<u>-0-</u>	<u>14.4</u>	<u>14.1</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE & DURATION OF EACH:)
20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:  
December 10, 1977

$$\text{REACTOR SERVICE FACTOR} = \frac{\text{HOURS REACTOR WAS CRITICAL}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{REACTOR AVAILABILITY FACTOR} = \frac{\text{HOURS REACTOR WAS AVAILABLE TO OPERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT SERVICE FACTOR} = \frac{\text{HOURS GENERATOR ON LINE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT AVAILABILITY FACTOR} = \frac{\text{HOURS UNIT WAS AVAILABLE TO GENERATE}}{\text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT CAPACITY FACTOR} = \frac{\text{NET ELECTRICAL POWER GENERATED}}{[\text{Net Capability or Design (Mwe-Net)}] \times \text{HOURS IN REPORTING PERIOD}} \times 100$$

$$\text{UNIT FORCED OUTAGE RATE} = \frac{\text{FORCED OUTAGE HOURS}}{\text{HOURS GENERATOR ON LINE} + \text{FORCED OUTAGE HOURS}} \times 100$$

# UNIT SHUTDOWNS

DOCKET NO. 50-287

UNIT NAME Oconee Unit 3

DATE 12-9-77

REPORT MONTH November, 1977

NO.	DATE	TYPE F-FORCED S-SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR (2)	CORRECTIVE ACTIONS/COMMENTS
12	77-11-01	S	720.00	C	1	Refueling outage
<div> <div> (1) REASON  A-EQUIPMENT FAILURE (EXPLAIN)  B- MAINT. OR TEST  C- REFUELING  D-REGULATORY RESTRICTION  E-OPERATOR TRAINING AND      LICENSE EXAMINATION  F-ADMINISTRATIVE  G-OPERATIONAL ERROR      (EXPLAIN)  H-OTHER (EXPLAIN) </div> <div> (2) METHOD  1-MANUAL  2-MANUAL      SCRAM  3-AUTOMATIC      SCRAM </div> </div>						

## SUMMARY:

Refueling outage continued. Note that cumulative capacity factors for Oconee Unit 3 have been calculated using a weighted maximum dependable capacity to reflect past variations in this number.

DOCKET NO. 50-287UNIT Oconee Unit 3DATE 12-9-77**AVERAGE DAILY UNIT POWER LEVEL**MONTH November, 1977

DAY	AVERAGE DAILY POWER LEVEL (MWe-net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-net)
1	-	17	-
2	-	18	-
3	-	19	-
4	-	20	-
5	-	21	-
6	-	22	-
7	-	23	-
8	-	24	-
9	-	25	-
10	-	26	-
11	-	27	-
12	-	28	-
13	-	29	-
14	-	30	-
15	-	31	-
16	-		

**DAILY UNIT POWER LEVEL FORM INSTRUCTIONS**

On this form, list the average daily unit power level in MWe-net for each day in the reporting month. Compute to the nearest whole megawatt.

These figures will be used to plot a graph for each reporting month. Note that by using maximum dependable capacity for the net electrical rating of the unit, there may be occasions when the daily average power level exceeds the 100% line (or the restricted power level line). In such cases, the average daily unit power output sheet should be footnoted to explain the apparent anomaly.